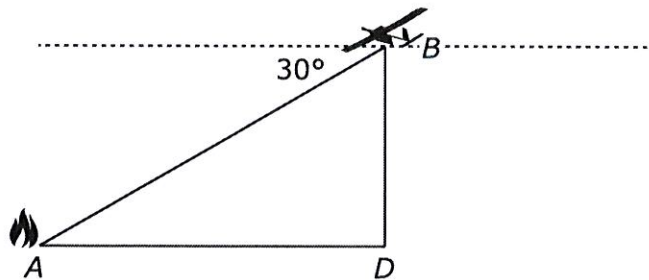


WLPCS
Geometry

An unmanned aerial vehicle (UAV) is equipped with cameras used to monitor forest fires. The figure represents a moment in time at which a UAV, at point B , flying at an altitude of 1,000 meters (m) is directly above point D on the forest floor. Point A represents the location of a small fire on the forest floor.



At the moment in time represented by the figure, the angle of depression from the UAV to the fire has a measure of 30° .

23. Part A

At the moment in time represented by the figure, what is the distance from the UAV to the fire?

Enter your answer in the box.

Part B

What is the distance, to the nearest meter, from the fire to point D ?

Enter your answer in the box.

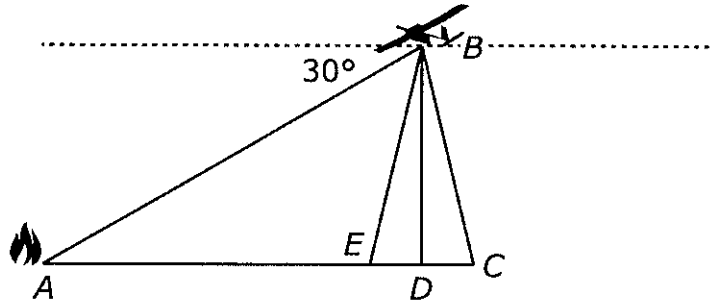
WLPCS
GEOMETRY

Name: _____

Exit Slip 6.4/6.5

Part C

Points C and E represent the linear range of view of the camera when it is pointed directly down at point D .

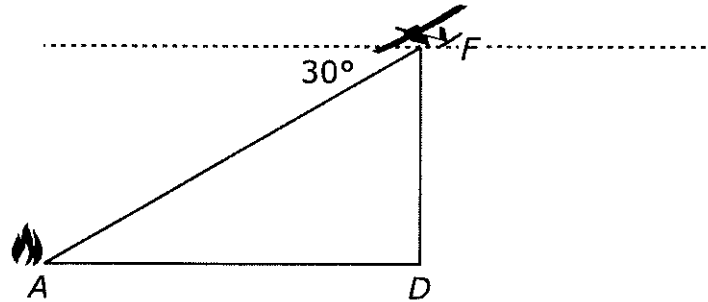


The field of view of the camera is 20° and is represented in the figure by $\angle CBE$. If the camera takes a picture directly over point D , what is the approximate width of the forest floor that will be captured in the picture?

- A. 170 meters
- B. 353 meters
- C. 364 meters
- D. 728 meters

Part D

The UAV is flying at a speed of 13 meters per second in the direction toward the fire. Suppose the altitude of the UAV is now 800 meters. The new position is represented at F in the figure.



From its position at point F , how many minutes, to the nearest tenth of a minute, will it take the UAV to be directly over the fire?

- A.** 0.6
- B.** 1.2
- C.** 1.8
- D.** 2.0

6) Find AB

